

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
19 February 2004 (19.02.2004)

PCT

(10) International Publication Number  
**WO 2004/014717 A1**

(51) International Patent Classification<sup>7</sup>: **B62K 19/08**

(21) International Application Number:  
PCT/CA2003/001188

(22) International Filing Date: 7 August 2003 (07.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/401,334 7 August 2002 (07.08.2002) US

(71) Applicant and

(72) Inventor: SUTHERLAND, Michael, T. [CA/CA]; 130  
Douglas Glen Manor South East, Calgary, Alberta T2Z  
3Y5 (CA).

(74) Agent: WOODLEY, John, H.; Sim & McBurney, 330  
University Avenue, 6th Floor, Toronto, Ontario M5G 1R7  
(CA).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

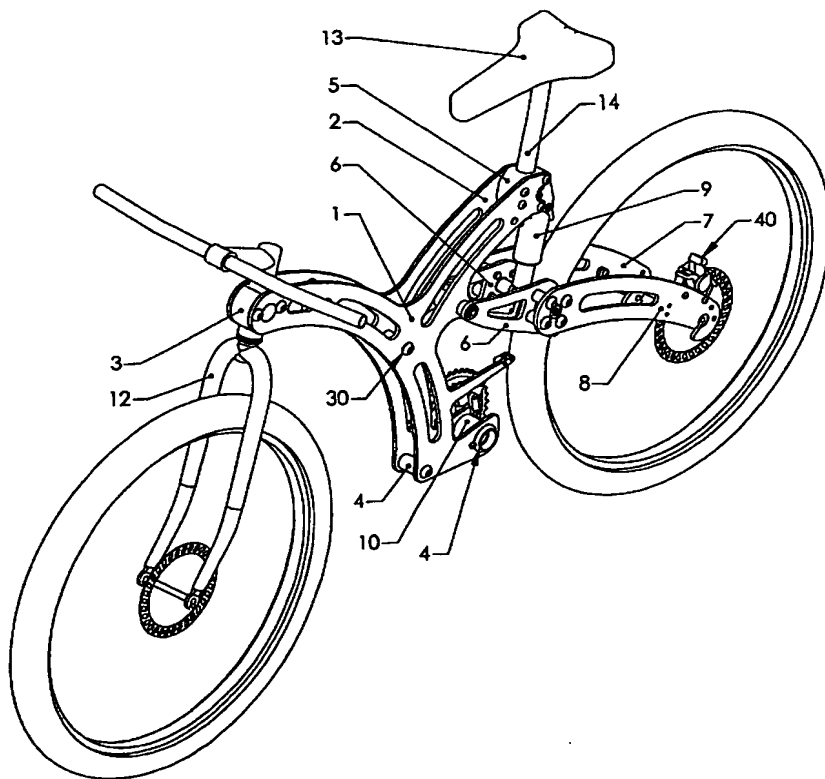
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: FOLDING BICYCLE CONSTRUCTED FROM PLATE FRAME ELEMENTS



(57) Abstract: A bicycle frame design using plateframe structural elements for a high performance, full suspension bicycle having the ability to fold up in a package of compact size is provided. The main frame is formed by opposed plate frame elements (1, 2), patterned in the ergonomic dimensions and component arrangements therefrom used for contemporary mountain bikes. The patterned plate frame elements (1, 2) are cut from plate stock in a way that locates and mounts the operative elements in positions required for bike function. Such plate frame structure is of modular, lightweight, and weldless construction. A mechanically simple, lightweight rear shock absorbing system (7, 8, 9) is incorporated. The design routes cables in an internal arrangement, separating them from rider or other attached components or accessories on the inboard side of the plateframe structure. Overall geometry and dimensions of this configuration are adjustable to provide a universal fit for riders of various sizes. The opposed plate frame elements can be separate plates structures, or can be formed by folding a single blank having therein both opposed plate frame elements.

WO 2004/014717 A1